

CLAIMS

1. A jig for calcining an electronic component comprising a
5 substrate and a zirconia layer coated on a surface of the
substrate characterized in that the zirconia layer including one
or more metal oxides which form a liquid phase is calcined for
improving peel-off resistance and wear resistance to crystallize
the liquid phase after the calcination.
- 10 2. The jig for calcining the electronic component as defined in
claim 1, wherein the metal oxide contained in the zirconia layer
includes one or more metal oxides selected from a group
consisting of rare earth metal oxides, alkaline earth metal oxides
15 and transition metal oxides, and aluminum oxide.
3. The jig for calcining the electronic component as defined in
claim 1, wherein the metal oxide contained in the zirconia layer
is a composite oxide made of two or more metals selected from a
20 group consisting of rare earth metal oxides, alkaline earth metal
oxides and transition metal oxides.
4. The jig for calcining the electronic component as defined in
claim 1 further comprising 5 % or less in weight of impurities
25 other than one or more of the metal oxides selected from the rare

earth metal oxides, the alkaline earth metal oxides and the transition metal oxides and the aluminum oxide.

5. The jig for calcining the electronic component as defined in claim 1, wherein the zirconia which is a main component of the zirconia layer is stabilized, partially-stabilized or non-stabilized zirconia.

6. A jig for calcining an electronic component comprising a substrate, an intermediate layer containing aluminum oxide and coated on a surface of the substrate and a zirconia surface layer coated on the intermediate layer characterized in that the intermediate layer contains at least one metal oxide acting as a sintering aid for improving peel-off resistance during the calcination of the jig for calcining the electronic component including the zirconia surface layer/the intermediate layer/the substrate.

7. The jig for calcining the electronic component as defined in claim 6, wherein the sintering aid contained in the intermediate layer includes one or more metal oxides selected from the group consisting of rare earth metal oxides excluding yttrium oxide, transition metal oxides excluding zirconium oxide, and barium oxide.

8. The jig for calcining the electronic component as defined in claim 6, wherein the sintering aid contained in the intermediate layer is a composite oxide made of two or more metals selected from the group consisting of rare earth metal oxides excluding yttrium oxide, transition metal oxides excluding zirconium oxide,
5 and barium oxide.

9. The jig for calcining the electronic component as defined in claim 6 further comprising 5 % or less in weight of impurities in
10 the intermediate layer other than the sintering aid and the aluminum oxide.

10. A jig for calcining an electronic component comprising a substrate and a zirconia layer prepared by bonding coarse
15 zirconia having an average particle size from 30 to 500 μm and fine zirconia having an average particle size from 0.1 to 10 μm by means of a partially fused-bonding agent and coated on the substrate characterized in that the partially fused-bonding agent is aluminum oxide or alumina-magnesia-based spinel composite
20 oxide.

11. A jig for calcining an electronic component comprising a substrate and a zirconia layer prepared by bonding coarse zirconia having an average particle size from 30 to 500 μm and
25 fine zirconia having an average particle size from 0.1 to 10 μm

by means of a partially fused-bonding agent and coated on the substrate characterized in that the partially fused-bonding agent is a mixture of one or more metal oxides selected from the group consisting of rare earth metal oxides, transition metal oxides and
5 alkaline earth metal oxides, and aluminum oxide.

12. A jig for calcining an electronic component comprising a substrate and a zirconia layer prepared by bonding coarse zirconia having an average particle size from 30 to 500 μ m and
10 fine zirconia having an average particle size from 0.1 to 10 μ m by means of a partially fused-bonding agent and coated on the substrate characterized in that the partially fused-bonding agent is a mixture of two or more metal oxides selected from the group consisting of rare earth metal oxides, transition metal oxides and
15 alkaline earth metal oxides.

13. A jig for calcining an electronic component comprising a substrate and a zirconia layer prepared by bonding coarse zirconia having an average particle size from 30 to 500 μ m and
20 fine zirconia having an average particle size from 0.1 to 10 μ m by means of a partially fused-bonding agent and coated on the substrate characterized in that the partially fused-bonding agent is a mixture of one or more metal oxides selected from the group consisting of rare earth metal oxides, transition metal oxides and
25 alkaline earth metal oxides, and alumina-magnesia-based

spinel-type composite oxide.

14. The jig for calcining the electronic component as defined in any one of claims 10 to 13, wherein an intermediate layer is
5 formed between the substrate and the zirconia layer.

15. The jig for calcining the electronic component as defined in claim 14, wherein the intermediate layer contains alumina, alumina-zirconia or alumina-magnesia-based spinel.

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16. The jig for calcining the electronic component as defined in any one of claims 10 to 15, wherein the substrate is made of baked-mud or porcelain.

15 17. The jig for calcining the electronic component as defined in any one of claims 10 to 16, wherein a weight ratio between the coarse zirconia and the fine zirconia plus the partially fused-bonding agent is between 75:25 and 25:75.

20 18. The jig for calcining the electronic component as defined in any one of claims 10 to 17, wherein a weight ratio of the partially fused-bonding agent toward the coarse zirconia plus the fine zirconia plus the partially fused-bonding agent is 3 % in weight or more and below 25 % in weight.

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19. A jig for calcining an electronic component comprising a substrate, a zirconia surface layer formed on a top surface of the substrate and a metal oxide coated layer formed on a bottom surface of the substrate characterized in that an intermediate layer is formed between the substrate and the zirconia surface layer and/or between the substrate and the metal oxide coated layer.

20. The jig for calcining the electronic component as defined in claim 19, wherein a sintering aid made of one or more metal oxides is contained in the intermediate layer.

21. A jig for calcining an electronic component comprising a substrate, a zirconia surface layer formed on a top surface of the substrate and a metal oxide coated layer formed on a bottom surface of the substrate characterized in that at least one of the zirconia surface layer and the metal oxide coated layer contains a sintering aid made of one or more metal oxides.

22. The jig for calcining the electronic component as defined in claim 21, wherein the sintering aid is one or more oxides or a mixture thereof or a composite oxide thereof selected from the group consisting of alumina, rare earth oxides, transition metal oxides and alkaline earth metal oxides.

23. A jig for calcining an electronic component comprising a substrate, a zirconia surface layer formed on a top surface of the substrate and a metal oxide coated layer formed on a bottom surface of the substrate characterized in that a metal oxide
5 coated layer is formed on a side surface of the substrate.

24. The jig for calcining the electronic component as defined in claim 23, wherein a main component of the metal oxide coated layer is an oxide selected from zirconia, alumina,
10 alumina-zirconia, alumina-magnesia spinel and magnesia.

25. A jig for calcining an electronic component comprising a substrate, a zirconia surface layer formed on a top surface of the substrate and a metal oxide coated layer formed on a bottom
15 surface of the substrate characterized in that the metal oxide coated layer does not contain zirconia.

26. The jig for calcining the electronic component as defined in any one of claims 19 to 25, wherein thicknesses of the zirconia
20 surface layer and the metal oxide coated layer are from 50 to 500 μ m.

27. The jig for calcining the electronic component as defined in any one of claims 19 to 26, wherein the substrate is made of
25 baked-mud or porcelain.